Increased Geopolitical Instability as a Consequence of Changed Equilibrium Country Size

Dr. Richard Schubert, www.berlin-3d-art.de, richard.schubert@mpg-alumni.de

Abstract
submitted to Arbeitskreis SOE of Max Planck Alumni Association.
To be discussed at joint meeting of internal MPAA networks:
Socio-Economic Physics and Fundamental Questions on March / 16 / 2018
(Arbeitskreis sozio-ökonomische Physik u. Arbeitskreis für Grundsatzfragen)

In the proposed contribution an analogy is established between the equilibrium size of magnetic domains[1] and the historically formed size of countries. The equilibrium size of magnetic domains is given by a minimum of the energy function consisting of different components obeying to different scaling laws, as e.g. scaling to the cube or the square of the domain size. Thus, different materials have different average domain sizes. The size of the historically formed countries as well depends on a cost/benefit equilibrium, which can also be described by a kind of energy function. As a consequence of the digitization and other changes in technology the parameters of the material countries are made of have changed dramatically leading to a different equilibrium country size. As a consequence the current geopolitical situation is in a thermodynamic sense highly unstable. In the contribution to the Gesprächskreis/proceedings it will be shown how the recent developments in the Yellow Sea, the Ukraine and Catalonia could also be interpreted in the framework of this model. Trying to make suggestions on how to achieve a smooth transition from the old state of the system to a new state closer to equilibrium is, however, outside the scope of the proposed contribution. The methodology will draw to some extend on principles developed for describing the mingling of two social groups in a different context[2]. After the presentation of these ideas students from different countries and disciplines could be invited to give their viewpoints on this theoretical framework, which is of course only meant to foster the discussion and not to serve as a finished model.

1 https://en.wikipedia.org/wiki/Magnetic_domain#Size_of_domains
2 p. 37 https://www.hss.de/download/publications/Banziana_2016.pdf#page=37